

**METHOD AND DEVICE FOR ESTABLISHING CONTACT, BASED ON THE  
TELECOMMUNICATIONS NETWORK, BETWEEN A SELECTION OF TV-  
VIEWERS AND AN ESTABLISHED GAME PROGRAM**

- 5 The present invention relates to a method and device for announcing to TV viewers via  
→ the screen of their TV set a key code for use in establishing contact, based on the  
telecommunications network, between a selection of viewers and an established game  
program.
- 10 Methods and devices of the type introduced above are well known and are put to use in  
connection with typical TV games that resemble computer games, where the viewer is  
able to communicate with the TV game program via the push button unit on his  
telephone instrument. Often a TV company has produced on the screen of the TV set a  
telephone number that viewers may call, and in such cases it would be up to the TV  
15 company to select the players who would be allowed to participate. The prizes that are  
often offered in these types of TV game programs are relatively moderate.

It has been an objective with the present invention, however, to provide both a method  
and a device which makes it possible to ensure that neither the TV company nor the  
20 game operator itself would in reality have the possibility of choosing which viewers  
→ would be allowed to participate in the scheduled game program. Similarly, the key  
code that the TV viewers would have to pick up in order to establish contact based on  
the communications network would be selected at random, meaning that no one would  
be able to know the code, e.g., a telephone number, ahead of time. Thus, all viewers  
25 would in reality have the same opportunity to connect up with the game program,  
whereas the decisive factor would be the speed at which this occurs.

- According to the invention it is suggested that, in the method introduced above, the key  
code will contain elements which are each transmitted in succession to the screen of the  
30 TV set in the form of signs and/or symbols, e.g., numbers and/or letters, within selected  
time slots in at least one TV program and/or in at least one TV commercial spot, and  
that the key code for every announcement is selected automatically and randomly  
among a predetermined number of different key codes.
- 35 According to a preferred embodiment of the method, said time slots are respectively  
placed within selected time units of the TV program and/or the TV commercial spot.

As an alternative to this, the time slots may be respectively placed within randomly selected time units of the TV program and/or the TV commercial spot.

- The feature that the key code is selected automatically and randomly among a predetermined number of different key codes would make it more difficult for certain "clever" viewers to sit in readiness to ring a specific number as soon as the TV company provides the opportunity. Only when all the elements have been shown in succession would the viewer gain knowledge of the key code.
- 10 The selection of viewers is determined as a function of a predetermined number of viewers who by using the key code first manage to establish the aforementioned contact.
- 15 The duration and/or position of the time slots within a respective time unit would, according to the method, be randomly selected. This means that in a TV commercial spot said time slots can be placed at random within each commercial spot so that the signs/symbols displayed in the form of the key code elements appear on the screen at various points of time in a display sequence, which means that the viewers must pay attention to the entire display sequence in order to pick up the specific key code element presented there.
- 20 Furthermore, it would be possible according to the invention to select the duration of the display and/or the placement of the key code elements within the respective time slot in a random manner. This means that, for example, the first sign or symbol in the key code could be displayed with a relatively long duration, while the last signs are shown with very short duration and in a random section from the TV program or TV commercial being shown.
- 25 The random selection is expediently done with the aid of an automatically operating selection device, ensuring that persons employed by the TV company, for example, cannot make such a selection manually. The possibility that employees of the TV company might be suspected of giving certain viewers easier access to the game program, e.g., a TV game, is thus avoided.
- 30 → 35 According to the invention the viewers are able to establish the aforementioned contact with the TV channel operator or game program operator via the telephone network or a computer communications network.

The device introduced above is characterized by a key code generator which generates the elements of the key code and transmits each of these in succession to the TV set in the form of signs and/or symbols, e.g., numbers and/or letters, within selected time slots in at least one TV program and/or in at least one TV commercial spot, said key code generator being designed to select the key code randomly among a predetermined number of different key codes for every key code announcement, and a line connector in the telecommunications network for connecting with the game program a predetermined number of TV viewers who by using the key code first manage to establish said contact.

According to an embodiment of the device, said time slots respectively lie within selected time units of the TV program and/or the TV commercial spot.

15 Alternatively, the time units may be randomly selected.

A time slot generator is provided to determine the placement of a time slot within a respective time unit. Further, a time unit generator is provided to determine the placement of the time units within the TV program and/or the TV commercial spot.

20 The said key codes can be made up completely or partially of, e.g., digits in a telephone number, symbols, letters or combinations thereof.

25 The time slot generator is provided to choose at random the duration and/or placement of the time slots within a respective time unit.

Furthermore, it would be advantageous to have the key code generator be designed to randomly select the duration of the display and/or the position of the key code elements within a respective time unit.

30 The invention will now be explained in more detail with reference to the attached figures, said figures illustrating a non-restrictive embodiment of the invention.

Figure 1 shows a time diagram for the visualization of the invention.

35 Figure 2 shows a typical, simplified circuit pattern for the device, according to the invention.

On Figure 1 the key code selected for the example is indicated by reference numeral 1, this being the number 58213. These figures which, for example, make up the last five digits of a telephone number, e.g., 800 58213, are to be presented within a TV program or a TV commercial spot, e.g., broken up into five time units I, II, III, IV and V. In the chosen example, the durations of these five time units have a proportional relationship of 4.0: 2.5: 6.0: 3.5: 5.0. These time units can be determined by, e.g., a pulse train 2. The time slots within which the respective key code elements are to be displayed can be determined, for example, by a pulse train as indicated with reference numeral 3.

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In this way it is possible to determine not only where in the time duration for a TV program sequence the key code element will be shown, but also the duration of such a display, governed by the pulse width of each of the pulses 3.

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In order to perform the invention, it is suggested that there be provided a key code generator 4 capable of generating at random the elements of the key code 1 among a predetermined number of different, previously stored key codes which are linked to an available number of alternative telephone lines 5. Synchronizing pulses 6 are sent to an input on the generator 4 and simultaneously to a TV program or TV commercial producer, e.g., a video cassette recorder 7, CD ROM station, film projector or TV camera. The randomly selected key code, e.g., a series of digits, in this case 800 58213, is fed into a line connector 8, in such a way that only the correct line-connector unit 9 for the relevant telephone number is connected. Generator 4 is also in communication with a time unit generator 10 which determines the time units within which the key code elements in question shall appear. To further specify the placement and duration of each key code element within a time unit, there is also provided a time slot generator 11 which may be of a type that arbitrarily determines the placement of the time slot in the time unit and the duration of the time slot. The signals emerging from generator 4 and from the TV program or TV commercial spot simultaneously being played back is sent to a video mixer 12 and from there to a transmitter unit 13, either for wireless communication via a transmission antenna 14 to a receiving antenna 15 on a TV set 16, or via a cable connection 17 between transmitter 13 and TV set 16. The wireless communication may also take place via a satellite (not shown).

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When the viewer has observed all the elements in the key code, such as, e.g., a series of digits, the viewer(s) in question must dial the correct number on the push button unit 18 of the user's telephone instrument 19. In the chosen, non-restrictive example, the idea is

that only five of the viewers who first establish contact will gain access to the TV company's TV game. Line connector 8 forms a connection with a central interface 20 for adaptation between the signals from the push button unit 18 and a computer 21, connected to the system after interface 20, containing the software necessary for the TV game that is to be played by the viewers. The viewer who is most successful at solving the problems and tasks presented in the TV game will be registered by his telephone number in a register 22 connected to computer 21. This register can optionally contain a central telephone index (e.g., stored on a CD-ROM) to enable the winner's name to be displayed on the screen when the TV game winner is announced.

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Within the scope of the invention it would, of course, be possible to modify the circuit shown on Figure 2 without thereby deviating to any significant extent from the idea and scope of the invention.

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As an alternative to the use of the telephone to establish contact via the telecommunications network, there may be used, e.g., a PC 23 with a keyboard 23' which communicates with the computer processor 21 via a data server 24 by using data paths 26, 27, 28 indicated by the letter F. Other PC's (not shown) are able to communicate in a similar manner, but only a selection of the PC's would have access to processor 21.

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Communication from the central unit to the viewer can optionally be made audible via the telephone instrument or interactively optical via the TV screen or reciprocally via the PC visual display unit 23".

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Although it will be apparent from the above that the TV company is able to administer a game program, either audibly or visually, it will be understood that a separate game observer could just as well have provided for this type of administration.